

# DCT 532

## Industrial Pressure Transmitter with i<sup>2</sup>C interface

Stainless Steel Sensor

Accuracy according to IEC 60770:  
standard:  $\leq \pm 0.35$  % FSO  
option:  $\leq \pm 0.25$  % FSO



### Nominal pressure

from 0 ... 100 mbar up to 0 ... 400 bar

### Digital output signal

- i<sup>2</sup>C
- bus frequency max. 400 kHz
- configuration of data format
- interrupt signal

### Special characteristic

- ▶ perfect thermal behaviour
- ▶ excellent long term stability

### Optional versions

- ▶ pressure port  
G 1/2" flush up to 40 bar
- ▶ welded sensor
- ▶ customer specific versions

Contrary to the industrial pressure transmitter with analogue signal, the DCT 532 has a digital i<sup>2</sup>C-interface. i<sup>2</sup>C has a master-slave topology, whereby you can use up to 127 devices at one master. In addition to the typical settings, as slave address, data format, etc., it is possible to do special parametrisation for pressure unit and more.

Due to the usage of high quality materials and components, the DCT 532 is suitable for almost every industrial application, if medium is compatible with stainless steel 316L.

The modular concept of the pressure transmitter allows customized electrical or mechanical connections, so it is easy to adapt the pressure transmitter to different conditions on-site.

### Preferred areas of use are



Plant and machine engineering

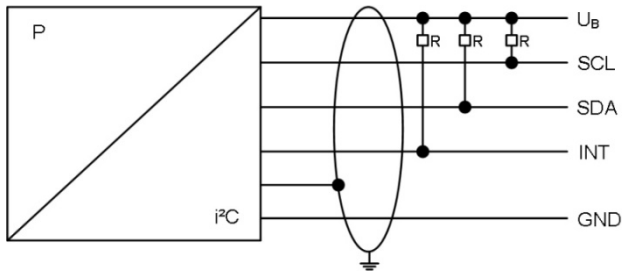


Energy industry



Input pressure range												
Nominal pressure gauge	[bar]	-1...0	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6
Nominal pressure abs.	[bar]	-	-	-	-	0.40	0.60	1	1.6	2.5	4	6
Overpressure	[bar]	5	0,5	1	1	2	5	5	10	10	20	40
Burst pressure ≥	[bar]	7.5	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50
Nominal pressure gauge / abs.	[bar]	10	16	25	40	60	100	160	250	400		
Overpressure	[bar]	40	80	80	105	210	600	600	1000	1000		
Burst pressure ≥	[bar]	50	120	120	210	420	1000	1000	1250	1250		
Vacuum resistance		P <sub>N</sub> ≥ 1 bar: unlimited vacuum resistance P <sub>N</sub> < 1 bar: on request										
Output signal / Supply												
i <sup>2</sup> C		V <sub>S</sub> = 3.5 ... 5.5 V <sub>DC</sub>										
Performance												
Accuracy <sup>1</sup>		standard for P <sub>N</sub> ≥ 0.4 bar: ≤ ± 0.35 % FSO standard for P <sub>N</sub> < 0.4 bar: ≤ ± 0.5 % FSO option for P <sub>N</sub> ≥ 0.4 bar: ≤ ± 0.25 % FSO										
Max. I/O current		10 mA										
Long term stability		≤ ± 0.1 % FSO / year at reference conditions										
Response time		1.5 msec + transmission time (depending on bus frequency)										
Measuring rate		500 Hz										
<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)												
Thermal effects (Offset and Span)												
Nominal pressure P <sub>N</sub>	[bar]	-1 ... 0			< 0.40			≥ 0.40				
Tolerance band	[% FSO]	≤ ± 0.75			≤ ± 1			≤ ± 0.75				
in compensated range	[°C]	-20 ... 85			0 ... 70			-20 ... 85				
Permissible temperatures												
Permissible temperatures		medium: -25 ... 125 °C electronics / environment: -25 ... 85 °C storage: -40 ... 85 °C										
Electrical protection												
Short-circuit protection		permanent										
Reverse polarity protection		by exchanged supply connections no damage, but also no function by exchanged communication with signal lines it can come according to constellation to damages.										
Electromagnetic compatibility		emission and immunity according to EN 61326										
Mechanical stability												
Vibration		10 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6										
Shock		500 g / 1 msec according to DIN EN 60068-2-27										
Materials												
Pressure port / Housing		stainless steel 1.4404 (316 L)										
Seals (media wetted)		standard: FKM options: EPDM welded version <sup>2</sup> (for P <sub>N</sub> ≤ 40 bar) others on request										
Diaphragm		stainless steel 1.4435 (316 L)										
Media wetted parts		pressure port, seal, diaphragm										
<sup>2</sup> welded version only with pressure ports according to EN 837, P <sub>N</sub> ≤ 40 bar												
Miscellaneous												
Current consumption		< 15 mA										
Weight		approx. 140 g										
Ingress protection		IP 67 / IP 68 for cable with ventilation tube										
Installation position		any <sup>3</sup>										
Operational life		100 million load cycles										
CE-conformity		EMC Directive: 2014/30/EU					Pressure Equipment Directive: 2014/68/EU (module A) <sup>4</sup>					
<sup>3</sup> Pressure transmitters are calibrated in a vertical position with the pressure connection down. If this position is changed on installation there can be slight deviations in the zero point for pressure ranges P <sub>N</sub> ≤ 1 bar.												
<sup>4</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar												

### Wiring diagrams

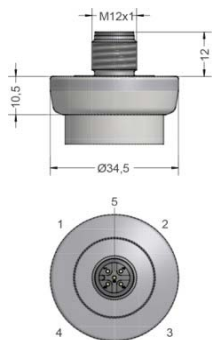


### Pin configuration

Electrical connection	M12x1 / metal (5-pin)	Binder 723 (5-pin)	cable colour (IEC 60757)
Supply +	1	1	wh (white)
Supply -	3	3	bn (brown)
SDA	2	2	ye (yellow)
SCL	4	4	gn (green)
INT	5	5	pk (pink)
Shield	housing	housing	gnye (green-yellow)

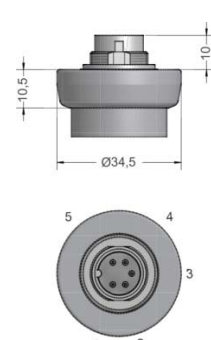
### Electrical connections (dimensions in mm)

#### Standard

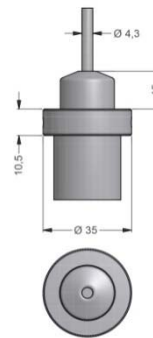


M12x1 5-pin (IP 67)

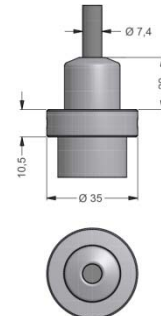
#### Optional



Binder Serie 723 5-pin (IP 67)



cable outlet with PVC cable (IP 67)<sup>5</sup> (on request)



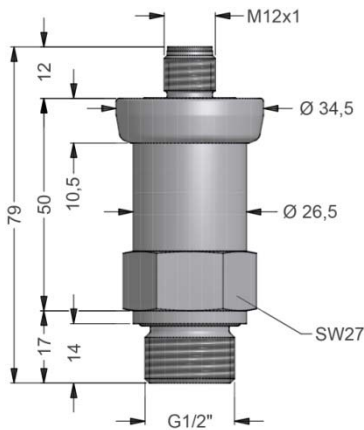
cable outlet, cable with ventilation tube (IP 68)<sup>6</sup> (on request)

<sup>5</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70°C)

<sup>6</sup> different cable types and lengths available, permissible temperature depends on kind of cable

### Mechanical connections (dimensions in mm)

#### standard



G1/2" DIN 3852 with ISO 4400

**Mechanical connections (dimensions in mm)**

**option**

⇒ **metric threads and other versions on request**

Configuration i <sup>2</sup> C-interface																	
<b>Stand configuration</b>	0	5	0	-	0	-	0	-	0	-	0	-	0	0	0	1	
<b>Slave Address</b>																	
address	0	0	1														
	1	2	7														
<b>Type of result register</b>																	
32bit IEEE float					0												
16bit Integer					1												
<b>Byte order of values</b>																	
Low byte first								0									
High byte first								1									
<b>Mode of result register</b>																	
Value									0								
Percent of nominal									1								
<b>Restore of address pointer</b>																	
No restore										0							
To last set address on next start										1							
<b>Digital meaning</b>																	
Count of result													0	0	0	0	1
													1	0	0	0	0
<b>Configuration code</b> (has to be defined with the order)					-			-					-				

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